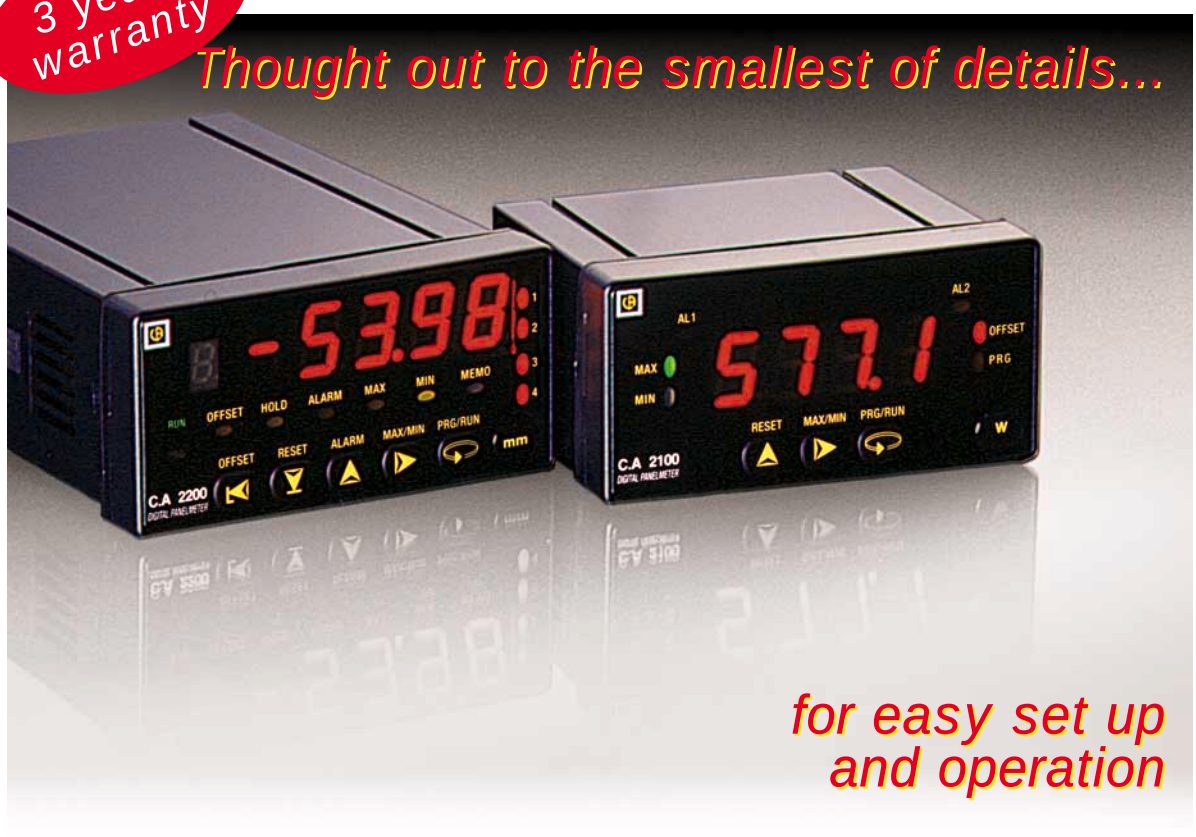
Programmable digital panel meters

C.A 2100
C.A 2200

3 years warranty

Thought out to the smallest of details...



for easy set up and operation

- Very simple programming
- Holds minimum and maximum values in memory
- Linearisation of the input signal on 11 segments (C.A 2200)
- Serial link for remote processing of measurements
- Instant installation, without tools
- Screwless connectors easily plugged in
- Accessories for wall mounting and on DIN rail
- Supplied with 100 labels for different measurement units
- Styled front panel with shaped touch keys
- Front panel IP 65

CE

CHAUVIN ARNOUX

C.A 2100

6 DPM's -999...9999 counts: process signals, load cell, temperature, voltage/current, tachometer-frequencymeter or meter-timer. Reduced depth for easier installation in enclosures and on equipment.

THE RANGE C.A 2100 : 6 models

	C.A 2100-P **U/I $_{DC}$** **Process Signals**	**C.A 2100-C** **Load Cells**	**C.A 2100-T** **Temperatures**	**C.A 2100-E** **AC / DC** **Electrical Quantities**
Front panel	48 x 96 mm watertight IP 65			
Depth from under flange	60 mm under flange			
Display	4 digits, red LED 14 mm			
Input	• voltage: 0...±10 V on 1 MΩ • current: 0...±20 mA on < 9 Ω *(selection by programmation and wiring of the transducer)*	• 0...±30 mV_{DC} on 100 MΩ • 0...±300 mV_{DC} on 1 MΩ *(selection by wiring of the transducer)*	• tc J: -50...800°C / -58...1472°F • tc K: -50...1250°C / -58...2282°F • tc T: -200...400°C / -328...752°F • Pt 100: -100...800°C / -148...1472°F	• voltage (5 calibres): 600 V_{AC} or V_{DC} maxi • current (3 calibres): 5 A_{AC} or A_{DC} maxi • shunt (3 calibres): 100 mV max *(selection by programmation and wiring input)*
ADC Resolution	2 000 counts	2 000 counts	2 000 counts	2 000 counts
Display rate	3 times/second	4 times/second	3 times/second	3 times/second
Display range	-999...9999 ct	-999...9999 ct	depending on sensor	• DC: 0...9999 ct • AC: -999...9999 ct
Accuracy	0.1% reading ±2 ct	0.1% reading ±3 ct	• tc: 0.2% reading ±0.5° • Pt 100: 0.1% reading ±0.2°	• DC: 0.1% reading ±2 ct • AC: 0.3% reading ±2 ct
Temperature coefficient	100 ppm/K	100 ppm/K	100 ppm/K	100 ppm/K
Response time	400 ms	400 ms	400 ms	5 s
MIN and MAX functions	yes	yes	yes	yes
OFFSET function	yes, by keyboard	yes, by keyboard	yes, by program	no
Probe excitation	30 mA at 10 or 24 V_{DC}	30 mA at 5 or 10 V_{DC}	no	no
Supply voltage (specify when ordering)	dual voltage 115/230 V ±15% 50/60 Hz or dual voltage 24/48 V ±15% 50/60 Hz or 10.5...16 V_{DC} or 21...32 V_{DC}			
Consumption	3 W without options			
Weight (with connectors)	250 g without options; 320 g with options			
Environmental conditions	use: 0...+50°C / RH < 95% storage : -25...+80°C			
Material of the case	polycarbonate V0 in accordance with UL			

The **C.A 2100-P** is particularly designed for the measurement of **process signals** output by “high level” sensors, with direct readout in engineering units. Equipped as standard with a supply for sensors, it accepts the most widely used signals, in the range ±10 V or ±20 mA. The display rule is programmable directly from the keyboard, without any calculation having to be made. Very useful in certain applications such as weighing, the C.A 2100-P can acquire an OFFSET from the keyboard, by simple acquisition of the measured value (tare).

The **C.A 2100-C** is specially designed for measuring **loads** (weights, forces, couples, pressures, etc.) by means of low-level sensors such as strain gauge bridges. Here again, the display rule can be programmed directly on the keyboard. To facilitate calibration for weighing applications, the C.A 2100 can acquire an OFFSET from the keyboard by simply capturing the measurement.

The **C.A 2100-T** is designed for **temperature** measurement, from J, K, T, couples or Pt 100 Ω resistances. The measurements can be displayed in degrees Celsius or Fahrenheit, with a resolution of a degree or a tenth of a degree. By programming, an offset can be introduced to correct the possible shift of the temperature sensor.

And the **C.A 2100-E** is specially designed for the measurement of **AC or DC electric signals**: voltages up to 600 V and electric currents up to 5 A on direct input. Currents greater than 5 A will be measured by connection to a current transformer or a shunt. Connected to a tachometric dynamo or to an alternator, the C.A 2100-E allows the display of speeds directly in the desired unit.
For voltage measurements, the instrument has four set ranges and an **automatic range**, which selects the most suitable range depending on the amplitude of the input voltage.

C.A 2100-F **Frequencymeter** **Tachometer**	**C.A 2100-I** **Meter** **Timer**
• magnetic sensor: V_{in} > 120 mV_{eff} • NAMUR sensor: I_{on} < 1 mA_{DC} / I_{off} > 3 mA_{DC} / R_c = 1 kΩ • TTL/24 V encoder or NPN/PNP sensor: “1” > 1.6 V_{DC} / “0” < 1.5 V_{DC} • dry contact: V_c = 5 V / R_c = 3.9 kΩ / F_c =100 Hz *(F_{min} 0.1 Hz / F_{max} 2 kHz)*	
• voltage: 10...650 V_{AC}	-
10 000 counts	10 000 counts
< 1 times/second	< 1 times/second
• frequencymeter: 0...999.9 ct • tachometer: 0...9999 ct	• meter: ±9999 ct • timer: 99.99s to 9999h
0.01% reading ±1 ct	0.01% reading ±1 ct
50 ppm/°C	50 ppm/°C
0.1 to 9.9 s	-
yes	yes
yes, by keyboard	no
30 mA at 8 or 24 V_{DC}	30 mA at 8 or 24 V_{DC}

The **C.A 2100-F** is intended essentially for measuring a **rotation speed** on the basis of the number of pulses per revolution, a **tangential or linear speed** on the basis of a frequency and the corresponding actual speed, a **time of passage** on the basis of a frequency value and the actual time, a **rate** or a **frequency** on the basis of an AC voltage or equivalent (passage to 0).

The **C.A 2100-I** is dedicated to **metering of external electrical pulses** and can be used to set up a meter, a count-down meter or a time-unit meter, such as a timer or time meter.

- In addition to the display of the input variable, the panel meters permanently record its minimum and maximum values.
- Programming of the instrument is done by means of the three keys on the front panel.
- Measurements can be acquired by a PC via a serial link, then processed by means of the DPMPROG software.

THE OPTIONS OFFERED:

- **2 alarms on SPDT relays**
- **RS232 or RS485 serial link**
- **4...20 mA analogue output for P, C, T and E models;**
  available at the end of 1999 for model F; not available for model I.

C.A 2200

4 DPM's "5-digits": process signals, load cell, temperature, tachometer-frequencymeter-counter-timer. Remote control functions. Perfectly suited to installations with centralised operation.

THE RANGE C.A 2200 : 4 models

	C.A 2200-P **U/I$_{DC}$** **Process Signals**	**C.A 2200-C** **Load Cells**	**C.A 2200-T** **Temperatures**
Front panel	48 x 96 mm watertight IP 65		
Depth from under flange	120 mm under flange		
Display	5 digits, red LED 14 mm + 1 digit, green LED, 8 mm		
Input	• voltage: 0...±10 V on 1 MΩ • current: 0...±20 mA on 15 Ω • potentiometer: 100 Ω min, 0...100% *(selection by programmation and wiring of the transducer)*	• 0...±15 mV$_{DC}$ on 100 MΩ • 0...±30 mV$_{DC}$ on 100 MΩ • 0...±60 mV$_{DC}$ on 100 MΩ • 0...±300 mV$_{DC}$ on 100 MΩ *(selection by programmation)*	• tc J: -50...850°C / -58...1562°F • tc K: -50...1200°C / -58...2192°F • tc T: -200...400°C / -328...752°F • tc R: 0...1700°C / -32...3092°F • tc S: 0...1700°C / -32...3092°F • tc E: -50...1000°C / -58...1832°F • Pt 100: -100...800°C / -148...1472°F
ADC Resolution	±65 000 counts	±65 000 counts	±20 000 counts
Display rate	16 times/second	16 times/second	8 times/second
Display range	±32 000 counts	±32 000 counts	±9 999 counts
Accuracy	0.15 µV or 0.3 µA	0.01% reading ±2 ct	0.1°C or 1°C
Temperature coefficient	50 ppm/°C	100 ppm/°C	50 ppm/°C
Response time	250, 425 or 775 ms depending on filtrage programmed		
Linearisation	yes, on 11 segments	yes, on 11 segments	no
MIN and MAX functions	yes	yes	yes
OFFSET function	yes, by keyboard	yes, by keyboard	yes, by program
Remote control (4 logical inputs)	26 preprogrammed functions (see on page 6)	26 preprogrammed functions (see on page 6)	• hold display • display MIN and MAX • clear MIN and MAX
Probe excitation	120 mA at 5 or 10 V$_{DC}$ or 30 mA at 10 or 24 V$_{DC}$	120 mA at 5 or 10 V$_{DC}$	Pt 100 < 1 mA$_{DC}$
Supply voltage (specify when ordering)	dual voltage 115/230 V ±15% 50/60 Hz or dual voltage 24/48 V ±15% 50/60 Hz or 10...30 V$_{DC}$		
Consumption	5 W without options, 10 W max		
Weight (with connectors)	475 g without options; 850 g with options		
Environmental conditions	use: 0...+50°C / RH < 95% storage : -25...+80°C		
Material of the case	polycarbonate V0 in accordance with UL		

The **C.A 2200-P** is particularly designed for the measurement, over 32,000 counts, of **process signals** issued by “high level” sensors, with direct readout in engineering units. Equipped as standard with a supply for sensors (3 values), it accepts the most widely used signals, in the range ±10 V or ±20 mA, and can also be connected to a potentiometric type transducer, for the measurement of displacement, of length, etc.
The display rule is directly programmable on the keyboard and can be linearised on 11 segments for sensors with non-linear output. Very useful in certain applications such as weighing, the C.A 2200-P can take an OFFSET from the keyboard, by simple acquisition of the measured value (tare). Lastly, four logical inputs allow four remote controls, chosen among 26 preprogrammed functions.

The **C.A 2200-C** is specially designed for measuring **loads** (weights, forces, couples, pressures, etc.) over a range of 32,000 counts by means of low-level sensors such as strain gauge bridges. It can also be connected to the terminals of a DC intensity shunt. The display rule is directly programmable on the keyboard and can be linearised on 11 segments. To facilitate calibration for weighing applications, the C.A 2200-C can acquire an OFFSET from the keyboard by simply capturing the measurement. Lastly, four logical inputs allow four remote controls, chosen among 26 preprogrammed functions.

The **C.A 2200-T** is designed for **temperatures** measurements, from J, K, T, R, S, E couples or Pt 100 Ω resistances. The measurements can be displayed in degrees Celsius or Fahrenheit, with a resolution of a degree or a tenth of degree. By programming, an offset can be introduced to correct the possible shift of the temperature sensor. The display of the MIN and MAX values and their resetting to zero can be controlled remotely by means of logical inputs.

The **C.A 2200-D** is mainly intended for exploitation of **pulsed logical signals** for the following functions: meter with memory (batch counter, metering, countdown or two-way metering), timer with memory, frequencymeter and tachometer (frequency, rotation speed, linear speed, rate, time, etc.). The display of the MIN and MAX values and their resetting to zero can be controlled remotely by means of logical inputs.

C.A 2200-D **Frequencymeter - Tachometer** **Meter - Timer**
• magnetic sensor: V_{in} > 120 mV_{eff} • NAMUR sensor: I_{on} < 1 mA_{DC} / I_{off} > 3 mA_{DC} / R_c = 1 kΩ • TTL/24 V encoder or NPN/PNP sensor: “1” > 1.6 V_{DC} / “0” < 1.5 V_{DC} • dry contact: V_c = 5 V / R_c = 3,9 kΩ • voltage: 10...650V_{AC} *(F_{min} 0.05 Hz / F_{max} 20 kHz)*
-
4 times/second
• metter: ±99999 counts • timer: 0.00 s to 9999.9 h • frequencymeter: 0...25 000 counts • tachometer: 0...99999 counts
0.01% reading ±1 ct
50 ppm/°C
no
yes
yes, by keyboard
• hold display • display MIN, MAX and RESET • clear MIN, MAX and RESET
30 mA at 8 or 24 V_{DC}

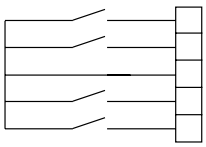
- On both instruments, two digital filters can be used to stabilise the display of measurements as a function of the process conditions.
- In addition to the display of the input variable, the DPM permanently record the minimum and maximum values.
- Display of the measurement can be inhibited remotely by closing a contact and the MIN and MAX values can be displayed and cleared remotely.
- On the C.A 2200-P and C.A 2200-C, the OFFSET can also be entered and cleared remotely. And the remote control functions can be modified as the user requires, with a total of 26 preprogrammed functions available in these instruments.
- Again on the C.A 2200-P and C.A 2200-C, the display can be set to flash when an alarm threshold is exceeded.
- Programming of the instruments is done by means of the five keys on the front panel, or remotely, on a PC, by means of the DPMPROG software and a serial link.

THE OPTIONS OFFERED:

- **2 or 4 alarms on relays or opto-couplers**
- **analogue output**
- **BCD output**
- **RS232 or RS485 serial link**

Control functions

The C.A 2200 panel meters have four logical inputs located on an removable connector on the back of the instrument.



These logical inputs allow the HOLD display function as well as display and resetting of the MIN and MAX memories to be controlled remotely by closing a contact.

On the C.A 2200-P and C.A 2200-C, 22 other functions can be assigned to the four logical inputs by programming. Each of them is then used to control a separate function chosen among those listed below.

POSSIBLE FUNCTIONS WITH THE C.A 2200-P & C.A 2200-C LOGICAL INPUTS

N°	Function	Description	Control
display and memory functions			
0	None	When assigned to an input, it deactivates it. When assigned to all the inputs, it resets them to the factory configuration (functions 1, 6, 7 and 9).	None
1	OFFSET*	Records the displayed value as the OFFSET and resets the display to zero.	Pulse
2	RESET OFFSET	Adds the OFFSET to the displayed value and deletes the value in the memory.	Pulse
3	MAX	Displays the MAX value. Or other pulse, return to reading.	Pulse
4	MIN	Displays the MIN value. Or other pulse, return to reading.	Pulse
5	RESET MAX/MIN	Reinitialises the MAX or MIN (depending on which one is displayed on the main display).	Pulse
6	MAX/MIN*	1st pulse: MAX display, 2nd pulse: MIN, 3rd pulse MEASUREMENT.	Pulse
7	RESET*	Combined with (1), deletes the OFFSET value. Combined with (6), resets MAX or MIN.	Maintained plus (1) or (6)
8	HOLD1	Blocks the display while all the outputs remain active.	Maintained
9	HOLD2*	Blocks the display, the BCD output and the analogue output.	Maintained
functions associated with the measurement variable			
10	INPUT	Displays the real value of the input voltage, in mV (intermittent).	Maintained
11	GROSS	Displays measured value + OFFSET value = gross value.	Maintained
12	OFFSET	Displays the OFFSET value in the memory.	Maintained
functions associated with the analogue output			
13	GROSS ANALOGUE	The analogue output is the image of the gross value (display value + OFFSET).	Maintained
14	ZERO ANALOGUE	Forces the analogue output to zero (i.e. 0V or 4mA).	Maintained
15	MAX ANALOGUE	The analogue output follows the evolution of the MAX value.	Maintained
16	MIN ANALOGUE	The analogue output follows the evolution of the MIN value.	Maintained
functions for use of a printer on the RS output			
17	PRINT NET	Prints the net value.	Pulse
18	PRINT GROSS	Prints the gross value.	Pulse
19	PRINT OFFSET	Prints the OFFSET value.	Pulse
20	PRINT SET1	Prints the value and status of threshold 1.	Pulse
21	PRINT SET2	Prints the value and status of threshold 2.	Pulse
22	PRINT SET3	Prints the value and status of threshold 3.	Pulse
23	PRINT SET4	Prints the value and status of threshold 4.	Pulse
functions associated with the alarms			
24	FICTITIOUS THRESHOLDS	Used exclusively for instruments which do not have any "alarms" option installed.	Maintained
25	ALARMS RESET	Deactivates the latched relays on instruments programmed with "latch" thresholds.	Pulse
special functions			
26	RS ROUNDED	Transmission to the serial output of the display value without rounding or filtering.	Maintained
27	BCD ROUNDED	Transmission to the BCD output of the display value without rounding or filtering.	Maintained

** Factory configuration*

Small details that make all the difference.

These functions provide extra performance to meet the current industrial requirements. With DPM's, it is now possible to:

• Generate new functions with or without interfacing with other systems to limit the complexity of the production and quality testing equipment

• Place these functions under the control of operations managed by systems which are not part of the measurement chain

• Recover the data for testing in a simple way.

For example:

***Function 10**. This command, which displays the actual value of the input signal, can be used to check that the sensor is operating correctly.*

***Functions 13 to 16**. These commands index the analogue output to derived values instead of to the measurement value.*

***Functions 17 to 23**. These commands send a memorised value via the serial output to a printer or other peripheral device.*

***Function 24**. When the panel meter is not equipped with an "alarms" board, this command can be used to simulate activation of the alarm thresholds. The frontal LEDs will then indicate the fictitious status of the alarms.*

***Function 25**. When an alarm threshold declared with the latch function is active, it must be possible to acknowledge the alarm once the fault has been corrected. This command cancels the latch on latched alarms.*

***Function 26**. This command can be used to record or print the measurement signal directly after its analogue-digital conversion, i.e. without any filtering or scale factor. This means that you can check all the dynamic faults on the system.*

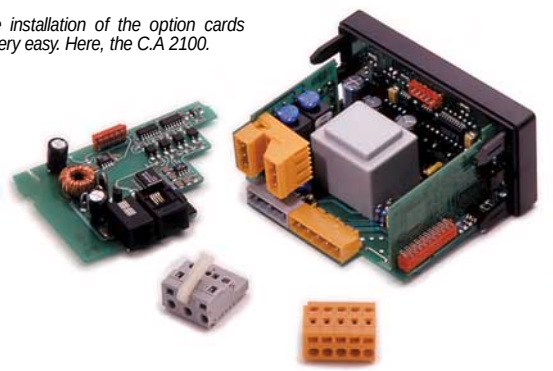
THE OPTIONS : for the most varied of applications

When ordered with the panel meter, the options will be installed by our services. They are also easily installed by the user at a later date.

On the C.A 2200, it is possible to simultaneously install an alarm card, an analogue output card and a communication card. On the other hand, the BCD card rules out the installation of other options.

As with the C.A 2100, they simultaneously accept the cards "2 Alarms on relays" and "RS232/485 Communication" or "Analogue Output MAN" card.

The installation of the option cards is very easy. Here, the C.A 2100.



No calibration is necessary after the installation of the option cards: the programme recognises them automatically and runs the instructions necessary for setting their parameters.

All the outputs of the option cards are insulated from the input signal by opto-couplers.

Card 2 Alarms on relays *for C.A 2100 or 2200*

Both channels are independently configurable and can be set as high or low alarm. With the C.A 2200, the 2nd alarm can be set as following the 1st. On C.A 2200-P and C.A 2200-C models, the alarms can be assigned to the measurement value, to the MIN or MAX values, or even to the gross value, and can be latched, thus they act when the overvalue has disappear. The reset of the latch alarms is controlled by the logical inputs.
The alarm outputs are made on SPDT relays, with an adjustable delay or hysteresis.

Outputs	2 relays "change-over contact"
Max voltage	250 V_{AC} or 125 V_{DC}
Max current	8 A at 250 V_{AC} or 8 A at 24 V_{DC}

Card 4 Alarms on relays *for C.A 2200*

In the same way, allows programming of four independent alarms, or two independent alarms with two following alarms.

Outputs	4 relays "make contact"
Max voltage	250 V_{AC} or 50 V_{AC}
Max current	500 mA at 125 V_{AC} or 1 A at 30 V_{AC}

Card 4 Alarms on NPN transistors *for C.A 2200*

It is identical to the preceding one, with the exception of the outputs which are done by opto-couplers.

Outputs	4 opto-couplers NPN
Max voltage	50 V_{DC}
Max current	50 mA at 50 V_{DC}

Programming makes the alarms completely configurable:

- **HI alarm or LO alarm.** In HI mode, the output is on when the measurement reaches or overshoots the value of the threshold. In LO mode, the output is on when the measurement reaches or remains below the value of the threshold.
- **Timed alarm.** All the alarm channels can be delayed by the timer, from 0.1 to 999.9 seconds. The timer acts on both sides of the threshold, i.e. in whatever direction it is crossed.
- **Alarm with asymmetrical hysteresis.** The hysteresis is programmed directly in display units, between 0.001 and 9999. For a high alarm, the threshold value is added. It is deducted for a low alarm. In this way, the return to rest of the alarm outputs is delayed.
- **Alarm with symmetrical hysteresis (on C.A 2200).** The programmed hysteresis is added to each side of the threshold, defining a band in which the output is on (high alarm) or off (low alarm).
- **Following alarm (on C.A 2200)**. The second and the fourth alarm (for the 4 ALARMS cards) can be defined as following alarms for the first and third alarm respectively. A following alarm will react depending on the threshold of the alarm it is slaved to, with an offset defined by programming. The gap can take any positive or negative value.
- **LATCH alarm.** This function can be used to keep an alarm active or inactive even if the value falls below the programmed threshold. A logical input will be assigned to cancel this latch function.

A small detail that makes all the difference.

On the C.A 2200, the second alarm, whatever the card, can be defined as following alarm with automatic correction of the residual measurement. In numerous cases, particularly in weighing and dosing operations, the mechanical systems and the architecture of the installation result in it being impossible to immediately stop the operation as soon as the setpoint is reached. For example, the "tailing-off" effect occurs in filling systems in which, when a programmed quantity is reached, an alarm causes blocking of the conduit. The time taken to close the protective cover and the quantity flowing during this time lapse give rise to a surplus of material in relation to the exact quantity required. The result is a real measurement greater than the setpoint (measurement residual). The "auto follow" function (AUTOTRAC) is specially designed to correct this measurement residual. It determines the excess quantity in relation to the programmed threshold and subtracts from the measurement, to switch on the alarm output with a minimum gap in relation to the threshold. Thus the surplus or insufficient quantity is permanently corrected.

Card Analogue Output *for C.A 2200*

It outputs a DC linear signal, proportional to a display range defined by programming. The output then retransmits the display variations between the two programmed points, giving rise to a "zoom" effect around a given value. The analogue output can also vary inversely to the display, if you allocate to the higher value of the analogue output (OUT-HI) the low value of the display range, and to the lower value of the output (OUT-LO) the higher value of the display range. The response time of the analogue output (60 ms) can also be increased to limit the transmission of undesirable disturbance.

Output signal	0...10 V	4...20 mA
Accuracy	0.1% ± 1 digit	0.1% ± 1 digit
Temperature coeff.	0.2 mV per K	0.5 µA per K
Max load	≥ 500 Ω	≤ 800 Ω

Card MAN Analogue Output *for C.A 2100*

(For P, C, T and E models; available at the end of 99 for model F; not available for model I).

Output signal	4...20 mA
Accuracy	0.2% ± 1 digit
Temperature coeff.	2 µA per K
Max load	500 Ω

Card BCD Output *for C.A 2200*

This option transmits the measurements in code form in binary decimal (8-4-2-1) at the display speed. The signals are compatible TTL and 24 V logic.

Output transistors	NPN ; 40 V maxi, 100 mA maxi
Logic	positive or negative
Output connector	SUD-B 37 pins

Card RS232 Communication *for C.A 2200*

This option allows connection of a C.A 2200 to a master instrument (PC, PLC,...) to programme the instrument and exploit the measurements, for example using the DPMPROG software supplied with the card.

Type of link	RS232C
Protocol	ISO 1745 or C.A, half duplex
Rate	1200, 2400, 4800, 9600 or 19200 bauds
Output connector	RJ9-4

Card RS485 Communication *for C.A 2200*

It allows connection in a network of up to 31 panel meters to a master, to programme the instruments and process their measurements. The DPMPROG software is supplied with the card.

Type of link	RS485
Protocol	ISO 1745 or C.A, half duplex
Rate	1200, 2400, 4800, 9600 or 19200 bauds
Output connector	RJ11-6, with double adapter (in + out)

Card RS232/485 Communication *for C.A 2100*

This option, specific to C.A 2100 panel meters, allows establishment of an RS232 or RS485 digital link with a master instrument. Selection is done by programming. The RS 232 link is used to establish a monopoint link (1 panel meter), and the RS 485 is used to create a network of instruments (up to 31). The DPMPROG software, supplied with the card, allows measurements to be stored and displayed on a PC.

Type of link	RS232C	RS485
Protocol	ISO 1745 or C.A, half duplex	
Rate	1200, 2400, 4800 or 9600 bauds	
Output connector	RJ9-4	RJ11-6, with double adapter (in + out)

PROGRAMMING : simplicity is the key

Designed to make the job easier for you: only the instructions specific to your application appear. You can't go wrong!

Maximum of five stages, depending on the options installe :
- input signal
- display rule
- alarms (if option used)
- analogue output (on C.A 2200, if option used)
- serial link (if option used)

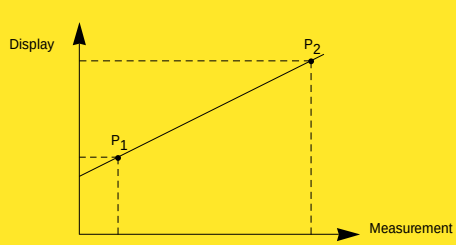
The programme has been designed to make setting the parameters simpler, and as clear as possible : thus, for example, the instrument automatically recognises the option cards installed and calls up the corresponding programme stages. Similarly, the metrological shifts of each card are automatically compensated.

On all the instruments, access to programming can be prohibited. On the C.A 2200, it can in addition be limited to certain instructions.

The C.A 2200 panel meters can also be programmed remotely, on a PC equipped with the DPMPROG software supplied with digital link cards.

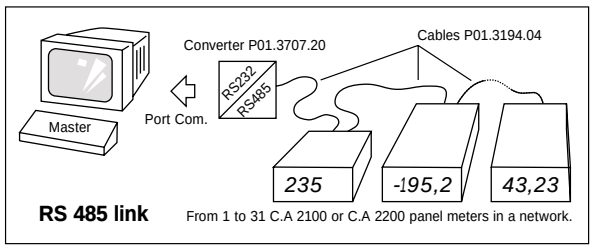
A small detail that makes the difference.

To further simplify the display rule, rather than introducing by the keyboard the input values corresponding to the start and end of the scale, they can be acquired by taking into account the signal present at the input.

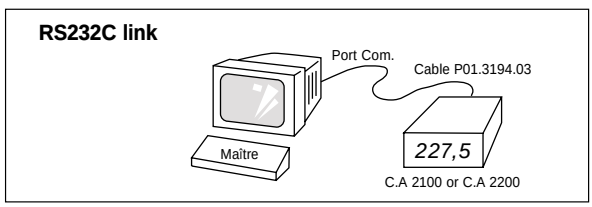


DIGITAL LINKS : the choice

With the serial communication options, the C.A 2100 and C.A 2200 are suitable for supervised operation by PC, PLC, or any other "master" instrument.



RS 485 link From 1 to 31 C.A 2100 or C.A 2200 panel meters in a network.

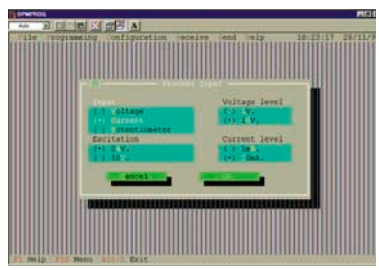


The RS232C and RS485 links allow :

- reading of the measured values and memorised values in the panel meter (MAX, MIN, OFFSET*, thresholds).
- the transmission of orders (requests, zero reset of the MAX, MIN, OFFSET* values, setting the OFFSET*).
- modification of the alarm thresholds

**OFFSET: on C.A 2100-P and C.A 2200 models P and C.*

Transmission takes place in half-duplex mode, using the ISO 1745 protocol or the simplified C.A protocol, at a speed between 1200 and 9600 bauds, or 19800 bauds for the C.A 2200 models.

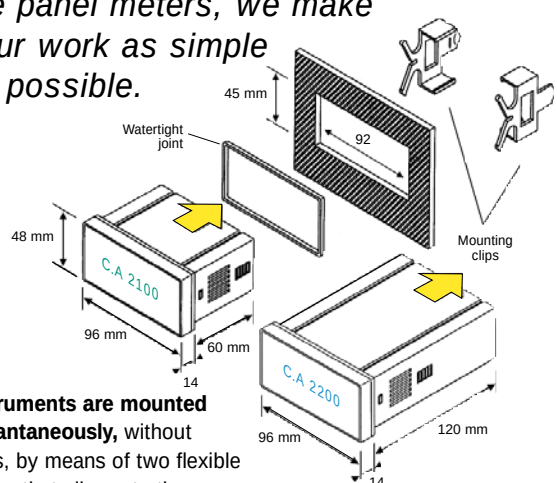


DPMPROG software

This software, which runs under MS-DOS, can be used to read the measurements made by the different panel meters and to program remotely one or more C.A 2200 connected in a network. The standard delivery includes the serial link option boards.

DIMENSIONS AND INSTALLATION : simplicity once again

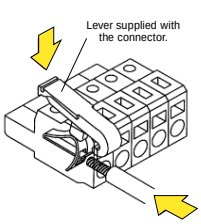
Whether mounting or connecting the panel meters, we make your work as simple as possible.



Instruments are mounted instantaneously, without tools, by means of two flexible straps that clip on to the case.

The connection of instruments is by rapid connectors, with spring clips. And the connectors are removable, to make panel meters easier to mount or remove.

Cross-section of cable: 0,08 mm² ≤ Ø ≤ 2,5 mm².



The connectors are equipped with removable reducers, to improve the reliability of the connection of wires of cross-section less than 0.5 mm².

No screws to tighten, means good grip over time, and the possibility of installing these panel meters without even a screwdriver. But, for those who prefer, screw connectors are available as accessories.

Small details that make the difference.
Two ingenious accessories are available, for surface mounting of instruments, or on DIN rail.

Mounting	Rear mounting	Multiposition mounting
Wall / in enclosure	yes	yes, **can be angled** ±14°
On table		yes, **can be angled** ±14°
On ceiling		yes, **can be angled** ±14°
Sym / asym DIN Rail	yes	yes, **can be angled** ±14°

Each instrument is supplied with 4 sheets of labels- adhesive unit symbols.

This makes a total of 97 predefined measurement units and 3 blank labels for customisation.

Once they have been stuck on, the label blends harmoniously with the keys on the front panel.

TO ORDER

Use the code tables below to order the panel meters with their options installed.
For the accessories, sold separately, use the references given further down the page.

DPM C.A 2200-

Type	Process	P					
	Temperature	T					
	Load cell	C					
	Tachometer/Timer	D					
Power supply	115/230 V_{AC}		1				
	24/48 V_{AC}		3				
	10...30 V_{DC}		5				
Alarms	no			X			
	AL 2 RELAYS			1			
	AL 4 RELAYS			2			
	AL 4 NPN			3			
Analogue output	no				X		
	ANALOG OUTPUT				1		
Digital communication	no					X	
	COM. RS232					2	
	COM. RS485					3	
	BCD OUTPUT*					4	
User manual	french (by default)						F
	english						E
	german						D

DPM C.A 2100-

Type	Process	P					
	Temperature	T					
	Load cell	C					
	Electrical	E					
	Tachometer/Frequencymeter	F					
	Meter/Timer	I					
Power supply	115/230 V_{AC}		1				
	24 V_{DC}		2				
	24/48 V_{AC}		3				
	12 V_{DC}		4				
Alarms	no			X			
	AL 2 RELAYS			1			
Analogue output **	no				X		
	4/20 mA				2		
Digital communication	no					X	
	COM. RS232/485					1	
User manual	french (by default)						F
	english						E
	german						D

* This choice excludes other options

** For P, C, T and E models; available at the end of 1999 for model F; not available for model I

Option cards

Use the references below to order the additional option cards (additions or replacements)

- Card CA2XXX AL 2 RELAYS — ref. P01.3193.01
- Card CA2200 AL 4 RELAYS — ref. P01.3193.03
- Card CA2200 AL 4 NPN — ref. P01.3193.04
- Card CA2200 ANALOG OUTPUT — ref. P01.3193.05
- Card CA2200 BCD OUTPUT — ref. P01.3193.08
- Card CA2100 COM. RS232/485 — ref. P01.3193.02
- Card CA2200 COM. RS232 — ref. P01.3193.06
- Card CA2200 COM. RS485 — ref. P01.3193.07
- Card CA2100 ANALOG OUTPUT — Mid-99

Accessories

- MULTIPOSITION MOUNTING with 2 DIN rail adapters — ref. P01.3194.01
- REAR MOUNTING with 2 DIN rail adapters — ref. P01.3194.02
- CONNECTOR + CABLE 1m RS232 — ref. P01.3194.03
- CONNECTOR + CABLE 1m RS485 — ref. P01.3194.04
- SET OF 4 SCREW CONNECTORS CA2100 — ref. P01.3194.05
- SET OF 6 SCREW CONNECTORS CA2200 — ref. P01.3194.06
- CONVERTER RS232-25F/RS485-screw — ref. P01.3707.20

SERVICE : included

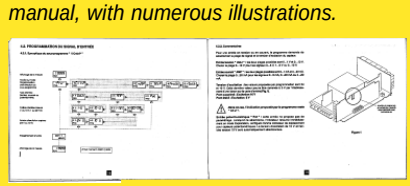
As important as the technical performance of the product, the services offered must also be taken into account when the purchasing decision is taken.

The C.A 2100 and C.A 2200 panel meters are guaranteed for 36 months against any manufacturing fault. Our service is based on a worldwide network, with a strength of 7 subsidiaries in Europe and U.S.A., 70 agents and more than 2000 distributors on the five continents.

The options ordered with the instruments are assembled in our factories, at no extra charge. And for a modest price, we offer to do the programming of your instruments, to your specifications (ask us for the form designed for this purpose).

Lastly, Chauvin Arnoux offers you an immense choice of products in its catalogue to build complete measurement systems around your panel meters (sensors, current transformers, shunts, recorders, measurement relays,...).

A small detail that makes the difference.
Each panel meter is supplied with a very detailed user manual, with numerous illustrations.



Also available in French and German.

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